IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No.:	09/843,589	**Art Unit:**	2623
Inventors:	BRUCKNER, John *et al.*	**Examiner:**	SHANG, Annan Q.
Filed:	April 25, 2001	**Confirmation No.:**	8739
Title:	SYSTEM AND METHOD FOR MANAGING INTERACTIVE PROGRAMMING AND ADVERTISEMENTS IN INTERACTIVE BROADCAST SYSTEMS	**Docket No.:**	113748–5764US

<u>AMENDED APPEAL BRIEF (37 C.F.R. § 41.37)</u>

Mail Stop Appeal Brief - Patents
US Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This is an Appeal from the rejection of claims 1, 3, 5–9, 11, 12, 19–21, 23–29 and 34–50 in the Final Office Action of April 9, 2008, relating to the above-referenced application.

113748/5764US/990918.02

(i) **Real Parties in Interest**

Sony Corporation and Sony Pictures Entertainment Inc, assignees of the present application, are the real parties in interest.

(ii) **Related Appeals and Interferences**

There are no related appeals and/or interferences currently pending.

(iii) **Status of Claims**

Claims 1, 3, 5–9, 11, 12, 19–21, 23–29 and 34–50 are pending in the case. Claims 1, 3, 5–9, 11, 12, 19–21, 23–29 and 34–50 have been rejected. Claims 1, 3, 5–9, 11, 12, 19–21, 23–29 and 34–50 are appealed herein.

The present application was filed on April 25, 2001 with claims 1-33. In a preliminary amendment dated may 16, 2001, claims 13-18 and 30-33 were canceled. In an amendment dated August 11, 2005, claims 1, 2, 4, 8, 9, 11, 12, 19, and 26-29 were amended; and claims 34-50 were added. In an amendment dated January 17, 2006, claims 9-12 and 27-29 were further amended. In an amendment dated December 22, 2006, claims 1, 9, 19, and 27 were further amended. In an amendment dated June 26, 2007, claims 2, 4, 10, and 22 were canceled; and claims 1, 5-7, 9, 19, and 27 were further amended. In an amendment dated December 3, 2007, claims 1, 9, 19, and 27 were further amended. No further claim amendments have been made.

(iv) **Status of Amendments**

No amendments have been filed subsequent to the amendment dated July 9, 2008.

(v)   **Summary of Claimed Subject Matter**

A.   Claim 1 -

An interactive enabling system for managing interactive program content associated with enhanced program content and interactive commercial content associated with commercial spots, the system comprising:

a) an interactive enabling device coupled for receiving a broadcast stream, said broadcast stream including the enhanced program content in series with the commercial spots, the broadcast stream further including program pre-triggers, interactive program triggers, commercial pre-triggers, and interactive commercial triggers for retrieving the interactive program content and interactive commercial content; and (*Publication, Paragraphs [0040], [0044], [0045], [0049], [0052], [0059], [0061], [0062], [0067]*)

b) at least one interactive content server coupled for communicating with an interactive control application in the interactive enabling device; (*[0043], [0048]*)

c) wherein the interactive enabling device executes the interactive control application to manage the retrieval of the interactive program and commercial content from the at least one interactive content server in response to the program and commercial pre-triggers and make available the interactive program and commercial content in response to the interactive program and commercial triggers, (*[0062], [0067]*)

d) wherein the interactive program and commercial content includes a plurality of segments, each segment including multiple pre-triggers, and each pre-trigger of the multiple pre-triggers for a segment corresponding to a particular type of communication link speed, (*[0067]*)

e) wherein the interactive enabling device is operable to respond to a commercial pre-trigger embedded in the enhanced program content and a program pre-trigger embedded in a commercial spot, (*[0062], [0067]*)

f) wherein the interactive control application includes a gatekeeper function for

selectively retrieving interactive program and commercial content in response to recognized interactive program and commercial triggers, and (*[0043]*, *[0044]*, *[0046]*, *[0052]*, *[0063]*)

g) wherein the interactive enabling device is configured for receiving and responding to the program pre-triggers, the interactive program triggers, the commercial pre-triggers, and the interactive commercial triggers embedded in the broadcast stream to ensure that the interactive program and commercial content do not overlap and interfere with each other. (*[0058]*, *[0060]*, *[0066]*, *[0068]*)

B.   Claim 5 -

The system as recited in claim 1,

a) wherein the gatekeeper is configured to recognize the interactive program and commercial triggers based on agreements between broadcasters and program or commercial sponsors. (*[0063]*, *[0078]*)

C.   Claim 9 -

An interactive enabling system for managing interactive program content associated with enhanced program content and interactive commercial content associated with commercial spots, the system comprising:

a) an interactive enabling device coupled for receiving a broadcast stream generated by a broadcast sponsor and for responding to program pre-triggers and commercial pre-triggers inserted into the broadcast stream for retrieving the interactive program and commercial content in advance of when the content is needed, said broadcast stream including the enhanced program content and the commercial spots; and (*[0040]*, *[0044]*, *[0045]*, *[0049]*, *[0052]*, *[0059]*, *[0062]*, *[0067]*)

b) at least one interactive content server coupled through a communication link for communicating with an interactive control application in the interactive enabling device; (*[0043]*, *[0048]*)

c) wherein the interactive enabling device executes the interactive control application to manage the retrieval of the interactive program and commercial

content in response to the program pre-triggers and commercial pre-triggers; (*[0062], [0067]*)

d)   wherein the interactive enabling device is operable to respond to a commercial pre-trigger embedded in the enhanced program content and a program pre-trigger embedded in a commercial spot; (*[0062], [0067]*)

e)   wherein the interactive enabling device is configured for receiving interactive program pre-triggers and commercial pre-triggers that were inserted into the broadcast stream by the broadcast sponsor at a specific time in advance of when the interactive program and commercial content is needed, based on estimates for communication link speed; and (*[0062], [0063]*)

f)   wherein the interactive program and commercial content includes a plurality of segments, each segment including multiple pre-triggers, and each pre-trigger of the multiple pre-triggers for a segment corresponding to a particular type of communication link speed. (*[0043], [0044], [0046], [0052], [0063]*)

D.   Claim 11 -

The system as recited in claim 9,

a)   wherein the interactive enabling device includes a list of approved pre-triggers; and (*[0062], [0063]*)

b)   wherein the interactive control application enables the retrieval of the interactive program and commercial content only if codes embedded in the interactive program pre-triggers and commercial pre-triggers match the codes in the list of approved pre-triggers. (*[0062], [0063]*)

E.   Claim 19 -

A method for managing interactive program content associated with enhanced program content and interactive commercial content associated with commercial spots, comprising:

a)   receiving a broadcast stream, said broadcast stream including the enhanced program content in series with the commercial spots, the broadcast stream further including program pre-triggers, interactive program triggers, commercial pre-triggers, and interactive commercial triggers for retrieving the

interactive program and commercial content from at least one interactive

content server; (*[0040], [0044], [0045], [0049], [0052], [0059], [0062],*

[0067])

b) managing the retrieval of the interactive program and commercial content

from the at least one interactive content server in response to the program and

commercial pre-triggers, and the availability of the interactive program and

commercial content in response to the interactive program and commercial

triggers, (*[0062], [0067]*)

c) wherein the interactive program and commercial content includes a plurality

of segments, each segment including multiple pre-triggers, and each pre-

trigger of the multiple pre-triggers for a segment corresponding to a particular

type of communication link speed; and (*[0067]*)

d) receiving and responding to the program pre-triggers, the interactive program

triggers, the commercial pre-triggers, and the interactive commercial triggers

embedded in the broadcast stream to ensure that the interactive program and

commercial content do not overlap and interfere with each other. (*[0062],*

[0063])

F.   Claim 23 -

The method as recited in claim 20,

a) further including recognizing the interactive program and commercial

triggers based on agreements between broadcasters and program or

commercial sponsors. (*[0063], [0078]*)

G.   Claim 27 -

A method for managing interactive program content associated with enhanced

program content and interactive commercial content associated with commercial

spots, comprising:

a) receiving a broadcast stream generated by a broadcast sponsor and responding

to program pre-triggers and commercial pre-triggers inserted into the

broadcast stream for retrieving the interactive program and commercial

content in advance of when the content is needed, based on estimates for

communication link speed, said broadcast stream including the enhanced program content and the commercial spots; and (*[0040], [0044], [0045], [0049], [0052], [0059], [0062], [0067]*)

b) managing the retrieval of the interactive program and commercial content in response to the program pre-triggers and commercial pre-triggers, said managing including retrieving interactive commercial content in response to receiving a commercial pre-trigger embedded in the enhanced program content, and retrieving interactive program content in response to receiving a program pre-trigger embedded in a commercial spot, (*[0062], [0067]*)

c) wherein the interactive program and commercial content includes a plurality of segments, each segment including multiple pre-triggers, and each pre-trigger of the multiple pre-triggers for a segment corresponding to a particular type of communication link speed. (*[0067]*)

H.   Claim 28 –

The method as recited in claim 27, further including:

a) maintaining a list of approved pre-triggers; and (*[0062], [0063]*)

b) enabling the retrieval of the interactive program and commercial content only if codes embedded in the interactive program pre-triggers and commercial pre-triggers match the list of approved pre-triggers. (*[0062], [0063]*)

(vi)   **Grounds of Rejection to be Reviewed on Appeal**

A.   Whether claims 1, 3, 19 and 20 are unpatentable over Barone (U.S. Patent Application No. 2005/0005303) and Kalluri (U.S. Patent No. 5,937,331) in view of Andrade (2002/0059644), in further view of (ATVEF Specification v1.1 r26) (hereinafter referred to as "the ATVEF Specification") and in further view of Markel (6,791,579) under 35 U.S.C. §103(a).

B.   Whether claims 5–7 and 23–25 are unpatentable over Barone and Kalluri, in view of Andrade and the ATVEF Specification and Markel as applied to claims 1 and

19 above, and in further view of Zigmond (U.S. Patent No. 6,698,020; hereinafter referred to as "Zigmond020") under 35 U.S.C. §103(a).

C.   Whether claims 8 and 26 are unpatentable over Barone and Kalluri in view of Andrade and the ATVEF Specification and Markel as applied to claims 1 and 19, and further in view of Zigmond (U.S. Patent No. 6,330,719; hereinafter referred to as "Zigmond719") under 35 U.S.C. §103(a).

D.   Whether claims 9, 11, 27, 28, 34–42, and 45–47 are unpatentable over Barone and Kalluri and further in view of Markel under 35 U.S.C. §103(a).

E.   Whether claims 12, 29, 43, 44 and 48–50 are unpatentable over Barone and Kalluri in view of Markel as applied to claims 9 and 27, and further in view of Zigmond719 under 35 U.S.C. §103(a).

(vii)   Argument

A.   Claims 1, 3, 19 and 20 are patentable over Barone and Kalluri, in further view of the ATVEF Specification and in further view of Markel under 35 U.S.C. §103(a)

In the final office action dated April 9, 2008, claims 1, 3, 19 and 20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Barone and Kalluri, in further view of the ATVEF Specification and in further view of Markel. As explained in the Manual of Patent Examination Procedure §706.02, entitled Rejection on Prior Art, for obviousness under 35 U.S.C. §103, "to support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." As set forth in detail below, the outstanding rejections are improper because the cited references do not suggest the claimed invention either explicitly or impliedly, or the examiner did not present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the cited references.

8

I.   Barone fails to disclose commercial pre-triggers and interactive commercial triggers.

Regarding claim 1, it recites an interactive enabling system (for managing interactive program content associated with enhanced program content and interactive commercial content associated with commercial spots) including:

> (a) an interactive enabling device coupled for receiving a broadcast stream, said broadcast stream including the enhanced program content in series with the commercial spots, the broadcast stream further including program pre-triggers, interactive program triggers, commercial pre-triggers, and interactive commercial triggers for retrieving the interactive program content and interactive commercial content; and

> (b) at least one interactive content server coupled for communicating with an interactive control application in the interactive enabling device;

> (c) wherein the interactive enabling device executes the interactive control application to manage the retrieval of the interactive program and commercial content from the at least one interactive content server in response to the program and commercial pre-triggers and make available the interactive program and commercial content in response to the interactive program and commercial triggers,

> (d) wherein the interactive program and commercial content includes a plurality of segments, each segment including multiple pre-triggers, and each pre-trigger of the multiple pre-triggers for a segment corresponding to a particular type of communication link speed,

> (e) wherein the interactive enabling device is operable to respond to a commercial pre-trigger embedded in the enhanced program content and a program pre-trigger embedded in a commercial spot,

9

(f) wherein the interactive control application includes a gatekeeper function for selectively retrieving interactive program and commercial content in response to recognized interactive program and commercial triggers, and

(g) wherein the interactive enabling device is configured for receiving and responding to the program pre-triggers, the interactive program triggers, the commercial pre-triggers, and the interactive commercial triggers embedded in the broadcast stream to ensure that the interactive program and commercial content do not overlap and interfere with each other.

(Limitation designations added for easy reference)

In the specification of the present application, it was stated that "[w]hile the use of triggers to download interactive content from remote sites, or provide interactive content themselves, is known in the art, any control over such interactivity has been limited to discrete periods of time such as program times or commercial breaks, but not both." *Publication, Paragraph [0013]*. That is, triggers for interactive program content generally occur in program segments of a broadcast stream, while triggers for interactive commercial content generally occur in segments of a broadcast stream devoted to a corresponding commercial spot. "Thus, efficiencies that could result from controlling and sharing the given time space, to the extent possible, could not be achieved. A need therefore exists to manage both interactive program content and interactive commercial content, and schedule and integrate interactive content from multiple sources that may or may not be known in advance, without interference." *Publication, Paragraph [0013]* (emphasis added).

To address the need expressed in the above passage, claim 1 recites an interactive enabling system (for managing interactive program content associated with enhanced program content and interactive commercial content associated with commercial spots) including limitations (a) through (g).

Regarding limitations (a), (b), (c), and (e) of claim 1, these limitations are disclosed in at least Paragraphs [0050], [0054], and [0067] of the present publication as follows:

[0050] A commercial break 410 may contain both regular, non-interactive commercials and interactive commercials. Interactive commercials contain triggers for retrieving the interactive commercial content. In one embodiment of the present invention, if a viewer has been viewing interactive program content, then interactive program triggers, if recognized by the gatekeeper function, will automatically result in interactive commercial content being displayed along with the normal commercial. In other embodiments, even though a viewer has been viewing interactive program content, the ITV will prompt the viewer to ask whether the viewing of interactive commercial content is desired. Once the start commercial trigger 408 is received by the ITV, the interactive control application continues to run, but becomes latent, or not visible, to the TV screen. The normal program and the interactive program content disappear, and the full screen is made available for commercials. The interactive control application will remain latent throughout the commercial break period, which is a known period of time. As illustrated in FIG. 3, during the latency time of the commercial break 410, the interactive control application waits for, and may receive, embedded interactive commercial triggers 416 from certain commercials 414 with enhanced commercial content. For example, an embedded interactive commercial trigger 416 for retrieving interactive commercial content from a particular URL may appear as follows:

[0054] When a recognized embedded interactive commercial trigger is received, the interactive control application will extract the URL information from the trigger and retrieve the interactive commercial content 422 from, for example, a remote web site. Once retrieved, the interactive commercial content is displayed along with the normal commercial.

[0067] In one embodiment of the present invention, for each segment of interactive program or commercial content needed, one or more pre-triggers may be inserted by the broadcast station or local node for pre-caching the content.

> ... When these pre-triggers are received by the ITV, the
> interactive assets will be downloaded and pre-cached, so
> that they will be available when needed. ...

That is, to implement the management of both interactive program content and

interactive commercial content, as well as the scheduling and integration of

interactive content from multiple sources, an interactive enabling system is

configured to: (1) manage the retrieval of the interactive program and commercial

content from at least one interactive content server in response to the program and

commercial pre-triggers and make available the interactive program and commercial

content in response to the interactive program and commercial triggers; and (2)

provide interactive program and commercial content including a plurality of

segments, each segment including multiple pre-triggers, and each pre-trigger of the

multiple pre-triggers for a segment corresponding to a particular type of

communication link speed.

The Office Action indicates that Barone discloses these limitations with the exception

of program pre-triggers and interactive program triggers in limitation (a). For

example, the Office Action cites following passages of Barone as disclosing

commercial pre-triggers:

> [0014] lines 1-6   Briefly, the present invention is directed
> to a system and method for preloading interactive content
> before it is to be displayed, thereby avoiding any unwanted
> delays due to download times. According to the invention,
> ITV data is embedded into the TV signal at some
> predetermined time before the enhanceable video segment
> will be broadcast.

> [0026] lines 1-8   In particular, the system 30 according to
> one embodiment of the present invention is designed to
> insert a URL link, trigger, or any other suitable ITV data
> (hereinafter referred to as "ITV data") in the program being
> broadcast, which is received by the ITV receiver 20. The
> ITV data is inserted into a selected frame of the TV signal

which will be broadcast a selected amount of time before a
corresponding TV segment will be broadcast.

The Office Action further cites following passages of Barone as disclosing interactive
commercial triggers:

[0050] lines 6-8:   Alternatively, an embedded command
can be inserted into the TV signal which instructs ITV
receiver 20 to begin displaying the downloaded content.

However, appellants respectfully disagree with the Examiner's representation of
Barone as disclosing the above indicated limitations. It appears that these passages of
Barone are merely describing inserting triggers or other ITV data in the program
being broadcast. Barone does not teach or suggest commercial pre-triggers or
interactive commercial triggers as defined and claimed in limitations (a), (b), (c), and
(e) of claim 1.

Based on the above discussions, it cannot be maintained that Barone discloses
commercial pre-triggers and interactive commercial triggers as defined and claimed
in limitations (a), (b), (c), and (e) of claim 1 (with the exception of program pre-
triggers and interactive program triggers in limitation (a)). Further, claim 19 recites
similar limitations as recited in limitations (a), (b), (c), and (e) of claim 1. Claims 3
and 20 depend from claims 1 and 19, respectively.

II.   Andrade fails to disclose a gatekeeper function for selectively retrieving
        interactive program and commercial content in response to recognized interactive
        program and commercial triggers.

Regarding limitation (f) of claim 1, it recites that "the interactive control application
includes a gatekeeper function for selectively retrieving interactive program and

commercial content in response to recognized interactive program and commercial triggers."

This limitation is disclosed in at least Paragraph [0043] of the present publication as follows:

> [0043] ... In one embodiment, the interactive control application will invoke a gatekeeper function, which monitors subsequent triggers received from the broadcast stream and determines which triggers will be executed and which triggers will be ignored.

The Office Action indicates that Andrade discloses limitation (f) of claim 1. For example, the Office Action cites the following passage of Andrade as disclosing the gatekeeper function:

> [0026], lines 1-13 Network 102 can represent a network such as the Internet hosting the World Wide Web (WWW). The WWW allows for a uniform way of accessing information on the Internet using HTML compliant browsers. Network 102 can be other type of networks such as, for example, a local area network (LAN) or a wide area network (WAN). Network 102 can also represent wired or wireless networks. Although one web server 102 is shown in FIG. 1A, any number of web servers can be connected to network 102. Furthermore, other types of network devices can also be connected to network 102, which can provide content for TV 104, such as, for example, a network router, bridge, gateway, or other like network devices.

However, appellants respectfully disagree with the Examiner's representation of Andrade as disclosing the above indicated limitation. It appears the Examiner is equating the "gateway" with the gatekeeper function disclosed in limitation (f). In paragraph [0043] of the present publication, a gatekeeper function is defined as monitoring "subsequent triggers received from the broadcast stream and determin[ing] which triggers will be executed and which triggers will be ignored."

According to Webopedia, "gateway" is defined as a "node on a network that serves as an entrance to another network. In enterprises, the gateway is the computer that routes the traffic from a workstation to the outside network that is serving the Web pages. In homes, the gateway is the ISP that connects the user to the internet." Therefore, the two definitions are completely different.

Based on the above discussions, it cannot be maintained that Andrade discloses a gatekeeper function for selectively retrieving interactive program and commercial content in response to recognized interactive program and commercial triggers. Further, claim 19 recites similar limitations as recited in limitation (f) of claim 1. Claims 3 and 20 depend from claims 1 and 19, respectively.

III. Markel fails to disclose interactive program and commercial content including a plurality of segments, each segment including multiple pre-triggers, and each pre-trigger of the multiple pre-triggers for a segment corresponding to a particular type of communication link speed.

Regarding limitation (d) of claim 1, it recites that "the interactive program and commercial content includes a plurality of segments, each segment including multiple pre-triggers, and each pre-trigger of the multiple pre-triggers for a segment corresponding to a particular type of communication link speed."

This limitation is disclosed in at least Paragraph [0067] of the present publication as follows:

> [0067] ... If multiple pre-triggers are inserted, each pre-
> trigger corresponds to a particular type of download
> connection speed. Thus, there may be separate pre-triggers
> for a broadband communication link and a POTS modem,
> each corresponding to an estimated connection speed.
> Generally, therefore, broadband link pre-triggers will occur
> later than telephone modem pre-triggers. The broadcast

station or local node will use an estimate for connection
speed and size of the asset to compute a pre-trigger time
and insert the pre-triggers in advance of the asset need
time. When these pre-triggers are received by the ITV, the
interactive assets will be downloaded and pre-cached, so
that they will be available when needed. ... For example,
FIG. 4 illustrates that interactive program content 518 is
needed at t=C. One or more pre-triggers 514 may be
inserted into the broadcast stream sometime in advance of
t=C. If multiple triggers are employed, each pre-trigger
corresponds to a different download speed or connection.
In addition, multiple unique segments of interactive
commercial content 524 are needed at various times during
the commercial break 520. One or more pre-triggers 510
may be inserted into the broadcast stream in advance of the
need time for each segment, each pre-trigger corresponding
to a different download speed or connection.

The Office Action indicates that Markel discloses limitation (d) of claim 1. However,

the Examiner does not fully address the limitation as recited (i.e., "wherein the

interactive program and commercial content includes a plurality of segments, each

segment including multiple pre-triggers, and each pre-trigger of the multiple pre-

triggers for a segment corresponding to a particular type of communication link

speed"). Instead, the Office Action merely states that Markel discloses "pre-triggers

for a segment corresponding to a particular type of communication link speed" (in

Markel, figs. 1-8; col. 1, line 66 – col. 2, line 21; col. 3, line 36 – col. 4, line 22; col. 6,

lines 8-62) because Markel teaches the "pre-fetching of enhancement information to

accommodate access latencies. Latency is inherently dependent upon communication

link speed". However, limitation (d) of claim 1 specifically states that there are

multiple pre-triggers in each segment, wherein each pre-trigger corresponds to a

particular type of communication link speed. That is, assuming arguendo that

Markel's recitation of "pre-fetching of enhancement information to accommodate

access latencies" equates to fetching a trigger corresponding to a communication link

speed, Markel still does not teach or suggest the interactive program and commercial

content including a plurality of segments, each segment including multiple pre-

triggers, and each pre-trigger of the multiple pre-triggers for a segment corresponding to a particular type of communication link speed.

Based on the above discussions, it cannot be maintained that Markel discloses interactive program and commercial content including a plurality of segments, each segment including multiple pre-triggers, and each pre-trigger of the multiple pre-triggers for a segment corresponding to a particular type of communication link speed. Further, claim 19 recites similar limitations as recited in limitation (d) of claim 1. Claims 3 and 20 depend from claims 1 and 19, respectively.

IV.   ATVEF Specification fails to disclose receiving and responding to the program pre-triggers, and embedding interactive program triggers, the commercial pre-triggers, and the interactive commercial triggers in the broadcast stream to ensure that the interactive program and commercial content do not overlap and interfere with each other.

Regarding limitation (g) of claim 1, it recites that "the interactive enabling device is configured for receiving and responding to the program pre-triggers, the interactive program triggers, the commercial pre-triggers, and the interactive commercial triggers embedded in the broadcast stream to ensure that the interactive program and commercial content do not overlap and interfere with each other."

This limitation is disclosed in at least Paragraphs [0058], [0060], [0066], and [0068] of the present publication as follows:

> [0058] At time t=M, an end commercial break trigger 418
> embedded in the broadcast stream is received by the ITV,
> and signifies that the commercial break 410 is terminated.
> The interactive control application ends its latency period,
> and the enhanced program content 400 and the interactive
> program content 420 reappear. Furthermore, any interactive
> commercial content that is still running at time t=M is

17

terminated. Alternatively, there may be contractually agreed-upon rules associated with certain activities. For example, assume that the last commercial within the commercial break is an interactive commercial which provides the user with a form for buying an automobile online. The automobile seller may enter into an agreement with the broadcast station to not terminate the interactive commercial content if a viewer was in the process of completing the form. When the form is complete, the interactive commercial will terminate and the viewer will again see the broadcast program, in progress.

[0060] At time t=N, a commercial break 520 is reached, and the first commercial is interactive commercial 502. During time period M, it is desirable that interactive commercial content 522 be viewed along with the normal commercial. However, as with interactive program content 518, sufficient time must be provided for the interactive commercial content 522 to be downloaded in advance of t=N. There may not be enough time within time period M to establish a connection with a remote Web site and download the interactive commercial content, especially if the interactive commercial content is desired immediately at t=N.

[0066] In the case of interactive program and commercial content inserted in advance of the broadcast time, because the need time for that content is known well in advance, in theory the interactive program or commercial content may be pre-cached at any time in advance of the need time. However, because the amount of memory available to an ITV is fixed, and this memory may be used, among other things, to store both interactive program and commercial assets, it may not be prudent to attempt to pre-cache interactive program assets too far in advance of the need time, because other interactive program and commercial assets having an earlier need time should have a higher priority for pre-caching assets into the limited memory available. Therefore, embodiments of the present invention determine a worst-case latest sufficient pre-cache time for a particular interactive program asset, and pre-cache the interactive program asset at that time. In other words, the present invention will attempt to wait as long as possible before pre-caching, while still ensuring that all of the

interactive program assets are likely to be pre-cached before they are needed.

[0068] In FIG. 4, note that because the enhanced program content 500 is broadcast to multiple viewer ITVs, the ITVs will typically receive the same pre-triggers at approximately the same time, and will want to pre-cache interactive program content 518 starting at t=E. The one or more servers containing the interactive program content 518 may be overwhelmed with simultaneous requests for those assets, resulting in bottlenecks and response times which may be much slower than estimated or measured. To reduce this problem, embodiments of the present invention employ a randomizer function in the ITV. The randomizer creates a window of time within which a particular ITV will actually request content from the server, and randomly assigns a time within that window for each request for interactive program content 518. Thus, even though requests from all ITVs for interactive program content 518 should optimally be sent to the remote server at time E, due to the randomizer the requests are actually be sent out at a random time within time window F. Requests received by the server within window F should still give provide time for every viewer's request to be serviced prior to t=D.

The Office Action indicates that ATVEF Specification discloses limitation (g) of claim 1. For example, the Office Action cites the following passage of ATVEF Specification as disclosing this limitation:

[Page 8, paragraphs 7 and 8] When the new enhancement is being received at the same time as an existing enhancement is displayed, and the new enhancement delivers its first trigger, the client may have one of three behaviors: The client ignores the new enhancement trigger until the existing enhancement has completed.

Again, the Examiner is <u>not fully addressing limitation (g) of claim 1</u> in this case. Limitation (g) specifically states that "wherein the interactive enabling device is configured for receiving and responding to the program pre-triggers, the interactive program triggers, the commercial pre-triggers, and the interactive commercial triggers

embedded in the broadcast stream to ensure that the interactive program and commercial content do not overlap and interfere with each other." Even assuming arguendo that "enhancement" in the ATVEF Specification equates to "trigger", it cannot be maintained that the ATVEF Specification teaches or suggests the interactive enabling device is configured for receiving and responding to the program pre-triggers, the interactive program triggers, the commercial pre-triggers, and the interactive commercial triggers embedded in the broadcast stream to ensure that the interactive program and commercial content do not overlap and interfere with each other. That is, considering the above discussion, it cannot be maintained that "ignor[ing] the new enhancement trigger until the existing enhancement has completed" equates to "to ensure that the interactive program and commercial content do not overlap and interfere with each other."

Based on the above discussions, it cannot be maintained that ATVEF Specification discloses receiving and responding to the program pre-triggers, and embedding interactive program triggers, the commercial pre-triggers, and the interactive commercial triggers in the broadcast stream to ensure that the interactive program and commercial content do not overlap and interfere with each other. Further, claim 19 recites similar limitations as recited in limitation (g) of claim 1. Claims 3 and 20 depend from claims 1 and 19, respectively.

In summary, based on the above discussions in Subsections I through IV of this section (Section A), the outstanding rejections are improper in asserting that claims 1, 3, 19 and 20 are unpatentable over Barone and Kalluri, in further view of the ATVEF Specification and in further view of Markel under 35 U.S.C. §103(a) because the cited references do not suggest the claimed invention either explicitly or impliedly, or the examiner did not present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the cited references. Accordingly, the Board should reject these improper assertions as explained above.

B.   Claims 5–7 and 23–25 are patentable over Barone and Kalluri, in view of
          Andrade and the ATVEF Specification and Markel as applied to claims 1 and 19
          above, and in further view of Zigmond020 under 35 U.S.C. §103(a)

In the final office action dated April 9, 2008, claims 5–7 and 23–25 stand rejected under
35 U.S.C. §103(a) as being unpatentable over Barone and Kalluri, in view of Andrade
and the ATVEF Specification and Markel as applied to claims 1 and 19 above, and in
further view of Zigmond020. As explained in the Manual of Patent Examination
Procedure §706.02, entitled Rejection on Prior Art, for obviousness under 35 U.S.C.
§103, "to support the conclusion that the claimed invention is directed to obvious subject
matter, either the references must expressly or impliedly suggest the claimed invention or
the examiner must present a convincing line of reasoning as to why the artisan would
have found the claimed invention to have been obvious in light of the teachings of the
references." As set forth in detail below, the outstanding rejections are improper because
the cited references do not suggest the claimed invention either explicitly or impliedly, or
the examiner did not present a convincing line of reasoning as to why the artisan would
have found the claimed invention to have been obvious in light of the teachings of the
cited references.

I.   Zigmond020 fails to disclose a gatekeeper function where it recognizes the
       interactive program and commercial triggers based on agreements between
       broadcasters and program/commercial sponsors (Addresses claims 5 and 23)

Regarding claim 5, it recites that "the gatekeeper is configured to recognize the
interactive program and commercial triggers based on agreements between
broadcasters and program or commercial sponsors." This limitation is disclosed in at
least Paragraphs [0063] and [0078] of the present publication as follows:

[0063] However, some commercial slots may be reserved for local advertisers who may have their commercials inserted into the broadcast stream at local cable company head ends, for example, without much advance notice, or may even have their commercials inserted in real time during the broadcast. For those commercials that might be inserted at the last minute, the advertiser would have to make pre-arrangements with the broadcast station, so that the gatekeeper function will recognize pre-triggers for that commercial, should they be received. For interactive commercial content inserted in real-time or without much advance notice, in one embodiment of the present invention a lookup file containing a list of pre-approved code#s may be examined so that the interactive enabling device will recognize the pre-triggers when they occur. Note that in this embodiment, the lookup file contains, by pre-arrangement, code#s for the interactive commercial content that may be inserted at the last moment.

[0078] The viewership information can also be used in real time. For example, advertisers may enter into agreements such that advertisers may run their interactive commercial content only if a threshold number of interactive viewers is reached, and if the threshold is not reached, the less expensive normal commercial would be run. This can be accomplished by communicating the viewership information back to the ITVs, who will then adjust their gatekeeper functions to either recognize embedded interactive commercial triggers or not. ...

The Office Action indicates that Zigmond020 discloses limitations of claim 5. For example, the Office Action cites following passage of Zigmond020 as disclosing these limitations:

[Column 8, lines 55-64] A predetermined agreement between third party ad source 62 and programming source 66 may be used to ensure that actual triggering events are provided to the ad insertion device 60. In this case, both the third party ad source 62 and programming source 66 may benefit from the ability to specifically target viewers. In contrast, the use of implied triggers or other actual triggering events may be accompanied with unilateral

22

insertion of selected advertisements into the video
programming feed 52 on the part of the ad source 62.

However, appellants respectfully disagree with the Examiner's representation of
Zigmond020 as disclosing the above indicated limitations. A close inspection of the
cited passage in Zigmond020 reveals that Zigmond020 merely indicates that an
agreement between third party ad source and programming source is used to ensure
that actual triggering events are provided to the ad insertion device. Therefore,
Zigmond020 fails to teach or suggest a gatekeeper function where it recognizes the
interactive program and commercial triggers based on agreements between
broadcasters and program/commercial sponsors.

Based on the above discussions, it cannot be maintained that Zigmond020 discloses a
gatekeeper function where it recognizes the interactive program and commercial
triggers based on agreements between broadcasters and program/commercial
sponsors. Claim 23 recites similar limitations as recited in claim 5. Further, claims
5-7 and 23-25 depend from claims 1 and 19, respectively.

In summary, based on the above discussions in Subsections I through IV of Section A
and Subsection I of this section (Section B), the outstanding rejections are improper
in asserting that claims 5–7 and 23–25 are unpatentable over Barone and Kalluri, in
view of Andrade and the ATVEF Specification and Markel as applied to claims 1 and
19 above, and in further view of Zigmond020 under 35 U.S.C. §103(a) because the
cited references do not suggest the claimed invention either explicitly or impliedly, or
the examiner did not present a convincing line of reasoning as to why the artisan
would have found the claimed invention to have been obvious in light of the
teachings of the cited references. Accordingly, the Board should reject these
improper assertions as explained above.

C. <u>Claims 8 and 26 are patentable over Barone and Kalluri in view of Andrade and the ATVEF Specification and Markel as applied to claims 1 and 19, and further in view of Zigmond719 under 35 U.S.C. §103(a)</u>

In the final office action dated April 9, 2008, claims 8 and 26 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Barone and Kalluri in view of Andrade and the ATVEF Specification and Markel as applied to claims 1 and 19, and further in view of Zigmond719. As explained in the Manual of Patent Examination Procedure §706.02, entitled Rejection on Prior Art, for obviousness under 35 U.S.C. §103, "to support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." As set forth in detail below, the outstanding rejections are improper because the cited references do not suggest the claimed invention either explicitly or impliedly, or the examiner did not present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the cited references.

> Claims 8 and 26 depend from claims 1 and 19, respectively. Based on the above discussions in Subsections I through IV of Section A, the outstanding rejections are improper in asserting that claims 8 and 26 are unpatentable over Barone and Kalluri in view of Andrade and the ATVEF Specification and Markel as applied to claims 1 and 19, and further in view of Zigmond719 under 35 U.S.C. §103(a) because the cited references do not suggest the claimed invention either explicitly or impliedly, or the examiner did not present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the cited references. Accordingly, the Board should reject these improper assertions as explained above.

D.   Claims 9, 11, 27, 28, 34–42, and 45–47 are patentable over Barone and Kalluri and further in view of Markel under 35 U.S.C. §103(a)

In the final office action dated April 9, 2008, claims 9, 11, 27, 28, 34–42, and 45–47 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Barone and Kalluri and further in view of Markel. As explained in the Manual of Patent Examination Procedure §706.02, entitled Rejection on Prior Art, for obviousness under 35 U.S.C. §103, "to support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." As set forth in detail below, the outstanding rejections are improper because the cited references do not suggest the claimed invention either explicitly or impliedly, or the examiner did not present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the cited references.

I.   Markel fails to disclose an interactive enabling device including a list of approved pre-triggers

Regarding claim 11, it recites that "wherein the interactive enabling device includes a list of approved pre-triggers; and wherein the interactive control application enables the retrieval of the interactive program and commercial content only if codes embedded in the interactive program pre-triggers and commercial pre-triggers match the codes in the list of approved pre-triggers." These limitations are disclosed in at least Paragraphs [0062] and [0063] of the present publication as follows:

> [0062] In order to pre-cache interactive program and commercial content, the time at which it is needed must be known. This time at which interactive program content is needed is generally known in advance, because the timing

of events that coincide with the corresponding interactive program content is fixed at the time of production. In addition, because most advertisers have their interactive commercials inserted into the broadcast stream prior to broadcast, the timing of those interactive commercials is generally known in advance. For interactive program and commercial content known in advance, in one embodiment of the present invention the appropriate code numbers are added to a list of approved code numbers, so that the interactive enabling device will recognize the pre-triggers when they occur.

[0063] However, some commercial slots may be reserved for local advertisers who may have their commercials inserted into the broadcast stream at local cable company head ends, for example, without much advance notice, or may even have their commercials inserted in real time during the broadcast. For those commercials that might be inserted at the last minute, the advertiser would have to make pre-arrangements with the broadcast station, so that the gatekeeper function will recognize pre-triggers for that commercial, should they be received. For interactive commercial content inserted in real-time or without much advance notice, in one embodiment of the present invention a lookup file containing a list of pre-approved code#s may be examined so that the interactive enabling device will recognize the pre-triggers when they occur. Note that in this embodiment, the lookup file contains, by pre-arrangement, code#s for the interactive commercial content that may be inserted at the last moment.

The Office Action indicates that Markel discloses limitations of claim 11. For example, the Office Action cites following passages of Markel as disclosing these limitations:

[Column 3, lines 52-57]   Output of an enhanced streaming media file may comprise inserting trigger information into a video stream and providing an HTML/Javascript wrapper page that embeds a streaming media player and includes software code to interpret the trigger information, access enhancement information and render enhancements.

26

> [Column 6, lines 44-47]   One pre-fetch embodiment may
> employ a `pre-trigger` that results in the enhancement
> information for an upcoming trigger to be accessed.

However, appellants respectfully disagree with the Examiner's representation of Markel as disclosing the above indicated limitations. Although these passages of Markel disclose pre-trigger, they are silent about "a list of approved pre-triggers; and ... the interactive control application [which] enables the retrieval of the interactive program and commercial content only if codes embedded in the interactive program pre-triggers and commercial pre-triggers match the codes in the list of approved pre-triggers."

Based on the above discussions, it cannot be maintained that Markel discloses an interactive enabling device including a list of approved pre-triggers. Further, claim 28 recites similar limitations as recited in claim 11.

Claims 9, 19 and 27 recite similar limitations as recited in claim 1. Further, claims 11 and 28 depend from claims 9 and 27, respectively. Claims 34-42 and 45-47 depend from claims 1, 9, and 19.

In summary, based on the above discussions in Subsections I through IV of Section A and Subsection I of this section (Section D), the outstanding rejections are improper in asserting that claims 9, 11, 27, 28, 34–42, and 45–47 are unpatentable over Barone and Kalluri and further in view of Markel under 35 U.S.C. §103(a) because the cited references do not suggest the claimed invention either explicitly or impliedly, or the examiner did not present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the cited references. Accordingly, the Board should reject these improper assertions as explained above.

E. <u>Claims 12, 29, 43, 44 and 48–50 are patentable over Barone and Kalluri in view of Markel as applied to claims 9 and 27, and further in view of Zigmond719 under 35 U.S.C. §103(a)</u>

In the final office action dated April 9, 2008, claims 12, 29, 43, 44 and 48–50 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Barone and Kalluri in view of Markel as applied to claims 9 and 27, and further in view of Zigmond719. As explained in the Manual of Patent Examination Procedure §706.02, entitled Rejection on Prior Art, for obviousness under 35 U.S.C. §103, "to support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." As set forth in detail below, the outstanding rejections are improper because the cited references do not suggest the claimed invention either explicitly or impliedly, or the examiner did not present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the cited references.

Claims 12, 43, 44 depend from claim 9, and claims 29 and 48-50 depend from claim 27. Based on the above discussions in Sections C and D, the outstanding rejections are improper in asserting that claims 12, 29, 43, 44 and 48–50 are patentable over Barone and Kalluri in view of Markel as applied to claims 9 and 27, and further in view of Zigmond719 under 35 U.S.C. §103(a) because the cited references do not suggest the claimed invention either explicitly or impliedly, or the examiner did not present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the cited references. Accordingly, the Board should reject these improper assertions as explained above.

28

CONCLUSION

In view of the foregoing, Appellants respectfully submit that the claimed invention is patentable over the references of record. The Examiner has failed to identify or provide teachings in the references for each of the claim limitations. Appellants respectfully request reversal of the Examiner's rejections.

Respectfully submitted,

Dated: November 26, 2008   By: _____

Samuel S. Lee
Reg. No. 42,791

Procopio, Cory, Hargreaves & Savitch LLP
530 B Street, Suite 2100
San Diego, California 92101-4469
(619) 238-1900
Customer No. **27189**

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(viii) Claims Appendix

1. An interactive enabling system for managing interactive program content associated with enhanced program content and interactive commercial content associated with commercial spots, the system comprising:

an interactive enabling device coupled for receiving a broadcast stream, said broadcast stream including the enhanced program content in series with the commercial spots, the broadcast stream further including program pre-triggers, interactive program triggers, commercial pre-triggers, and interactive commercial triggers for retrieving the interactive program content and interactive commercial content; and

at least one interactive content server coupled for communicating with an interactive control application in the interactive enabling device;

wherein the interactive enabling device executes the interactive control application to manage the retrieval of the interactive program and commercial content from the at least one interactive content server in response to the program and commercial pre-triggers and make available the interactive program and commercial content in response to the interactive program and commercial triggers,

wherein the interactive program and commercial content includes a plurality of segments, each segment including multiple pre-triggers, and each pre-trigger of the multiple pre-triggers for a segment corresponding to a particular type of communication link speed,

wherein the interactive enabling device is operable to respond to a commercial pre-trigger embedded in the enhanced program content and a program pre-trigger embedded in a commercial spot,

wherein the interactive control application includes a gatekeeper function for selectively retrieving interactive program and commercial content in response to recognized interactive program and commercial triggers, and

wherein the interactive enabling device is configured for receiving and responding to the program pre-triggers, the interactive program triggers, the commercial pre-triggers, and the interactive commercial triggers embedded in the broadcast stream to ensure that

the interactive program and commercial content do not overlap and interfere with each other.

2. (Canceled)

3. The system as recited in claim 1, wherein the interactive enabling device retrieves the interactive program and commercial content from the at least one interactive content server through a communication link or assembled from information in the broadcast stream.

4. (Canceled)

5. The system as recited in claim 1, wherein the gatekeeper is configured to recognize the interactive program and commercial triggers based on agreements between broadcasters and program or commercial sponsors.

6. The system as recited in claim 1, wherein the gatekeeper is configured to recognize the interactive program and commercial triggers based on parameters embedded within the interactive program and commercial triggers.

7. The system as recited in claim 1, wherein the gatekeeper is configured to recognize the interactive program and commercial triggers based on parameters maintained within the interactive enabling device.

8. The system as recited in claim 1, further comprising:
a plurality of additional interactive enabling devices in addition to said interactive enabling device, each of said plurality of additional interactive enabling devices coupled for receiving the broadcast stream;
wherein the interactive enabling device and each of the additional interactive enabling devices includes a corresponding randomizer for randomly time–skewing the

retrieval of the interactive program and commercial content in response to the interactive program and commercial triggers.

9. An interactive enabling system for managing interactive program content associated with enhanced program content and interactive commercial content associated with commercial spots, the system comprising:

an interactive enabling device coupled for receiving a broadcast stream generated by a broadcast sponsor and for responding to program pre-triggers and commercial pre-triggers inserted into the broadcast stream for retrieving the interactive program and commercial content in advance of when the content is needed, said broadcast stream including the enhanced program content and the commercial spots; and

at least one interactive content server coupled through a communication link for communicating with an interactive control application in the interactive enabling device;

wherein the interactive enabling device executes the interactive control application to manage the retrieval of the interactive program and commercial content in response to the program pre-triggers and commercial pre-triggers;

wherein the interactive enabling device is operable to respond to a commercial pre-trigger embedded in the enhanced program content and a program pre-trigger embedded in a commercial spot;

wherein the interactive enabling device is configured for receiving interactive program pre-triggers and commercial pre-triggers that were inserted into the broadcast stream by the broadcast sponsor at a specific time in advance of when the interactive program and commercial content is needed, based on estimates for communication link speed; and

wherein the interactive program and commercial content includes a plurality of segments, each segment including multiple pre-triggers, and each pre-trigger of the multiple pre-triggers for a segment corresponding to a particular type of communication link speed.

10. (Canceled)

11. The system as recited in claim 9,

wherein the interactive enabling device includes a list of approved pre-triggers; and

wherein the interactive control application enables the retrieval of the interactive program and commercial content only if codes embedded in the interactive program pre-triggers and commercial pre-triggers match the codes in the list of approved pre-triggers.

12. The system as recited in claim 9, further comprising:

a plurality of additional interactive enabling devices in addition to said interactive enabling device, each of said plurality of additional interactive enabling devices coupled for receiving the broadcast stream;

wherein the interactive enabling device and each of the additional interactive enabling devices includes a corresponding randomizer for randomly time–skewing the retrieval of the interactive program and commercial content in response to the interactive program pre-triggers and commercial pre-triggers.

13. – 18. (Canceled)

19. A method for managing interactive program content associated with enhanced program content and interactive commercial content associated with commercial spots, comprising:

receiving a broadcast stream, said broadcast stream including the enhanced program content in series with the commercial spots, the broadcast stream further including program pre-triggers, interactive program triggers, commercial pre-triggers, and interactive commercial triggers for retrieving the interactive program and commercial content from at least one interactive content server;

managing the retrieval of the interactive program and commercial content from the at least one interactive content server in response to the program and commercial pre-

triggers, and the availability of the interactive program and commercial content in response to the interactive program and commercial triggers,

wherein the interactive program and commercial content includes a plurality of segments, each segment including multiple pre-triggers, and each pre-trigger of the multiple pre-triggers for a segment corresponding to a particular type of communication link speed; and

receiving and responding to the program pre-triggers, the interactive program triggers, the commercial pre-triggers, and the interactive commercial triggers embedded in the broadcast stream to ensure that the interactive program and commercial content do not overlap and interfere with each other.

20. The method as recited in claim 19, further including selectively retrieving interactive program and commercial content in response to recognized interactive program and commercial triggers.

21. The method as recited in claim 19, further including retrieving the interactive program and commercial content from the at least one interactive content server through a communication link or assembling the interactive program and commercial content from information in the broadcast stream.

22. (Canceled)

23. The method as recited in claim 20, further including recognizing the interactive program and commercial triggers based on agreements between broadcasters and program or commercial sponsors.

24. The method as recited in claim 20, further including recognizing the interactive program and commercial triggers based on parameters embedded within the interactive program and commercial triggers.

25. The method as recited in claim 20, further including recognizing the interactive program and commercial triggers based on parameters maintained within the interactive enabling device.

26. The method as recited in claim 19,

wherein the step of receiving comprises:

receiving a broadcast stream by each of a plurality of interactive enabling devices said broadcast stream including the enhanced program content in series with the commercial spots, the broadcast stream further including interactive program triggers and interactive commercial triggers for retrieving the interactive program and commercial content from at least one interactive content server;

wherein the step of managing comprises:

managing each of the plurality of interactive enabling devices the retrieval of the interactive program and commercial content from the at least one interactive content server in response to the interactive program and commercial triggers; and

wherein the method further includes:

randomly time–skewing, by each of the plurality of interactive enabling devices, the retrieval of the interactive program and commercial content in response to the interactive program and commercial triggers.

27. A method for managing interactive program content associated with enhanced program content and interactive commercial content associated with commercial spots, comprising:

receiving a broadcast stream generated by a broadcast sponsor and responding to program pre-triggers and commercial pre-triggers inserted into the broadcast stream for retrieving the interactive program and commercial content in advance of when the content is needed, based on estimates for communication link speed, said broadcast stream including the enhanced program content and the commercial spots; and

managing the retrieval of the interactive program and commercial content in response to the program pre-triggers and commercial pre-triggers, said managing

including retrieving interactive commercial content in response to receiving a commercial pre-trigger embedded in the enhanced program content, and retrieving interactive program content in response to receiving a program pre-trigger embedded in a commercial spot,

wherein the interactive program and commercial content includes a plurality of segments, each segment including multiple pre-triggers, and each pre-trigger of the multiple pre-triggers for a segment corresponding to a particular type of communication link speed.

28. The method as recited in claim 27, further including: maintaining a list of approved pre-triggers; and

enabling the retrieval of the interactive program and commercial content only if codes embedded in the interactive program pre-triggers and commercial pre-triggers match the list of approved pre-triggers.

29. The method as recited in claim 27,

wherein the step of receiving comprises:

receiving a broadcast stream by each of a plurality of interactive enabling devices, said broadcast stream generated by a broadcast sponsor; and

responding, by each of the plurality of interactive enabling devices, to interactive program pre-triggers and commercial pre-triggers inserted into the broadcast stream for retrieving the interactive program and commercial content in advance of when the content is needed, said broadcast stream including the enhanced program content and the commercial spots;

wherein the step of managing comprises:

managing, by each of the plurality of interactive enabling devices, the retrieval of the interactive program and commercial content in response to the interactive program pre-triggers and commercial pre-triggers, said managing including retrieving interactive commercial content in response to receiving an interactive commercial pre-trigger that has been embedded in the enhanced program content in the broadcast stream; and

wherein the method further includes:

randomly time–skewing, by each of the plurality of interactive enabling devices, the retrieval of the interactive program and commercial content in response to the interactive program pre-triggers and commercial pre-triggers.

30. – 33. (Canceled)

34. The system as recited in claim 1,

wherein the broadcast stream further includes interactive program pre-triggers for triggering the retrieving of corresponding interactive program content in advance of when a portion of enhanced program content of the enhanced program content that is associated with the corresponding interactive program content is received in the broadcast stream;

wherein the broadcast stream further includes interactive commercial pre-triggers for triggering the retrieving of corresponding interactive commercial content in advance of when a commercial spot of the commercial spots that is associated with the corresponding interactive commercial content is received in the broadcast stream; and

wherein the interactive enabling device is configured to respond to the interactive program and commercial pre-triggers by executing the interactive control application to manage the retrieval of the corresponding interactive program and commercial content from the at least one interactive content server.

35. The system as recited in claim 34,

wherein the, interactive enabling device is configured to respond to an interactive commercial pre-trigger that has been embedded in the enhanced program content in the broadcast stream.

36. The system as recited in claim 34,

wherein said interactive enabling device is configured to respond to an interactive commercial pre-trigger by executing said interactive control application to manage the retrieval of interactive commercial content that is specified by the interactive commercial

pre-trigger during a time when the interactive enabling device is receiving the enhanced program content in the broadcast stream.

37. The system as recited in claim 34,

wherein the interactive enabling device is configured to respond to an interactive program pre-trigger that has been embedded in one of the commercial spots in the broadcast stream.

38. The system as recited in claim 34,

wherein said interactive enabling device is configured to respond to an interactive program pre-trigger by executing said interactive control application to manage the retrieval of interactive program content that is specified by the interactive program pre-trigger during a time when the interactive enabling device is receiving the commercial spots in the broadcast stream.

39. The system as recited in claim 9,

wherein said interactive enabling device is configured to respond to said interactive commercial pre-trigger by executing said interactive control application to manage the retrieval of interactive commercial content that is specified by the interactive commercial pre-trigger during a time when the interactive enabling device is receiving the enhanced program content in the broadcast stream.

40. The system as recited in claim 9,

wherein the interactive enabling device is configured to respond to an interactive program pre-trigger that has been embedded in one of the commercial spots in the broadcast stream.

41. The system as recited in claim 9,

wherein said interactive enabling device is configured to respond to an interactive program pre-trigger by executing said interactive control application to manage the

retrieval of interactive program content that is specified by the interactive program pre-trigger during a time when the interactive enabling device is receiving the commercial spots in the broadcast stream.

42. The system as recited in claim 9,

wherein the interactive commercial pre-trigger occurs earlier in the broadcast stream than a commercial spot of the commercial spots that is associated with the interactive commercial pre-trigger.

43. The system as recited in claim 12,

wherein the interactive enabling device and each of the additional interactive enabling devices are configured such that each of their corresponding randomizers randomly time–skews a beginning of a retrieval of interactive commercial content that is specified by the interactive commercial pre-trigger within an allotted time window.

44. The system as recited in claim 43,

wherein the time window is a time period during which the interactive enabling device and each of the additional interactive enabling devices receive the enhanced program content in the broadcast stream.

45. The method as recited in claim 19,

wherein the broadcast stream further includes interactive program pre-triggers for triggering the retrieving of corresponding interactive program content in advance of when a portion of enhanced program content of the enhanced program content that is associated with the corresponding interactive program content is received in the broadcast stream;

wherein the broadcast stream further includes interactive commercial pre-triggers for triggering the retrieving of corresponding interactive commercial content in advance of when a commercial spot of the commercial spots that is associated with the corresponding interactive commercial content is received in the broadcast stream; and

wherein the method further includes:

managing the retrieval of the corresponding interactive program and commercial content from the at least one interactive content server in response to the interactive program and commercial pre-triggers.

46. The method as recited in claim 45,

wherein the step of managing the retrieval of the corresponding interactive program and commercial content from the at least one interactive content server in response to the interactive program and commercial pre-triggers, comprises:

managing the retrieval of interactive commercial content that is specified by an interactive commercial pre-trigger in response to receiving the interactive commercial pre-trigger, said interactive commercial pre-trigger having been embedded in the enhanced program content in the broadcast stream.

47. The method as recited in claim 45,

wherein the step of managing the retrieval of the corresponding interactive program and commercial content from the at least one interactive content server in response to the interactive program and commercial pre-triggers, comprises:

managing the retrieval of interactive program content that is specified by an interactive program pre-trigger in response to receiving the interactive program pre-trigger, said interactive program pre-trigger having been embedded in one of the commercial spots in the broadcast stream.

48. The method as recited in claim 27,

wherein the step of managing includes:

managing the retrieval of interactive commercial content specified by an interactive commercial pre-trigger in response to receiving the interactive commercial pre-trigger, said interactive commercial pre-trigger having been embedded in the enhanced program content in the broadcast stream, said retrieval of the interactive commercial content specified by the interactive commercial pre-trigger occurring during a time when the enhanced program content is received in the broadcast stream.

49. The method as recited in claim 48,

wherein the step of managing further includes:

managing the retrieval of interactive program content in response to receiving an interactive program pre-trigger that has been embedded in one of the commercial spots in the broadcast stream.

50. The method as recited in claim 49,

wherein the step of managing the retrieval of interactive program content in response to receiving an interactive program pre-trigger that has been embedded in one of the commercial spots in the broadcast stream, includes:

managing the retrieval of interactive program content specified by an interactive program pre-trigger in response to receiving the interactive program pre-trigger, said—interactive program pre-trigger having been embedded in a commercial spot of the commercial spots in the broadcast stream, said retrieval of the interactive program content specified by the interactive program pre-trigger occurring during a time when the commercial spot is received in the broadcast stream.

(ix)   Evidence Appendix

None.

(x)   Related Proceedings Appendix

None